IN THE CLAIMS:

1.-29. (Canceled)

30. (Currently Amended) Monoclonal antibody~~Isolated antibodies~~ for use~~that recognize or modulate BAG3 protein and fragments thereof characterized in that they are used~~ in one or more of research, diagnostics and therapy for cell death-involving diseases, and/or for ~~the modulation of cell survival and/or~~ increasing cell death, wherein said antibody recognizes BAG3 protein and inhibits BAG3 protein activity, and wherein said antibody recognizes at least one BAG3 protein fragment in which the amino acid sequence of said fragment consists of a sequence~~said protein and fragments being~~ selected from~~in~~ the group of ~~peptide~~ sequences consisting of~~identified as~~ SEQ ID NO:~~2, 4, 6, 8,~~15, 16, 17 and~~,~~ 18.

31. (Currently Amended) The antibody~~Antibodies~~ according to claim 30 wherein said antibody recognizes a peptide in which the amino acid sequence of said peptide consists of a sequence having~~protein and fragments have~~ a homology of at least 75%, preferably at least 80% homology, preferably at least 90% homology, more preferably at least 95% homology, even more preferably at least 98% homology to at least one sequence~~of the BAG3 protein and fragments~~ selected from~~in~~ the group of sequences consisting of~~identified as~~ SEQ ID NO:~~2, 4, 6, 8,~~15, 16, 17 and~~,~~ 18.

32. (Currently Amended) The antibody~~Antibodies~~ according to claim 30 for increasing~~modulating~~ apoptosis in primary cells.

33. (Canceled)

34. (Withdrawn) Isolated polynucleotides encoding the protein and fragments according to claim 30.

35. (Currently Amended) The antibody~~Antibody~~ according to claim 30 selected from~~in~~ the group consisting of ~~polyclonal antibodies AC-BAG3-1 and AC-BAG3-2 and~~ monoclonal antibodies from mother clones AC-1, AC-2, AC-3, AC-4, AC-5, AC-6, AC-7, AC-8 and, AC-9 ~~against at least one of the peptide sequences indicated as SEQ ID NO: 2, 4, 6, 8, 15, 16, 17 and, 18~~.

36. (Currently Amended) The antibody~~Antibody~~ according to claim 30 which is~~AC-1 derived according to claim 35~~ secreted by the hybridoma mother clone AC-1, deposit n° PD02009 deposited on December 17 2002~~the 17/12/2002~~ at the Centro Biotecnologie Avanzate di Genova.

37. (Currently Amended) Hybridoma mother clone AC-1, deposit n° PD02009 deposited on December 17 2002~~the 17/12/2002~~ at the Centro Biotecnologie Avanzate di Genova for ~~the~~ production of ~~the~~ antibody according to claim 30~~36~~.

38. (Currently Amended) Peptide~~Map~~ construct for immunologically generating the antibody~~to obtain the antibodies~~ according to claim 35, said peptide construct being a Multiple Antigen Peptide (MAP) construct ~~being~~ selected from~~in~~ the group of MAP constructs consisting of:

MAP-BAG3-1: nh2-DRDPLPPGWEIKIDPQ-MAP, comprising SEQ ID NO:15~~containing **(SEQ ID NO 15)**~~;

MAP-BAG3-2: nh2- SSPKSVATEERAAPS-MAP, comprising SEQ ID NO:16~~containing **(SEQ ID NO 16)**~~;

MAP-BAG3-3: nh2- DKGKKNAGNAEDPHT-MAP, comprising SEQ ID NO:17~~containing **(SEQ ID NO 17)**~~; and

MAP-BAG3-4: nh2- NPSSMTDTPGNPAAP-MAP, comprising SEQ ID NO:18~~containing **(SEQ ID NO 18)**~~.

39. (Withdrawn) Antisense oligonucleotides according to claim 30 having a sequence selected in the group of SEQ ID NO: 9, 10, 11.

40. (Withdrawn) A vector comprising the isolated oligonucleotide/s of claim 39.

41. (Withdrawn) An expression vector comprising the isolated oligonucleotide/s of claim.

42. (Withdrawn) A host cell genetically engineered to contain the oligonucleotide/s of claim 30.

43. (Withdrawn) A host cell genetically engineered to contain the oligonucleotide/s of claim 39 in operative association with a regulatory sequence that controls expression of the oligonucleotide in the host cell.

44. (Withdrawn) Polynucleotides and corresponding codified peptides indicated as SEQ ID NO: 2, 3, 4, 5, 6, 7, 8, 15, 16, 17, 18 and constructs comprising them to modulate cell survival and/or death in primary cells.

45. (Withdrawn) Medical composition modulating the BAG3 expression comprising as active principle at least one polynucleotides and polypeptides according to claim 44.

46. (Currently Amended) Composition~~Medical composition modulating the BAG3 expression~~ comprising a pharmaceutically acceptable carrier and as active principle at least one antibody according to claim 30.

47. (Currently Amended) The composition~~Composition~~ according to claim 46 wherein said antibody is~~comprising the monoclonal~~ antibody secreted by mother clone AC-1, deposit n° PD02009 deposited on December 17 2002 at the Centro Biotecnologie Avanzate di Genova.

48. (Canceled)

49. (Canceled)

50. (Currently Amended) The composition~~Composition~~ according to claim 46 for treating diseases characterised by diminished or defective apoptosis.~~cell death-involving diseases, and for modulation of cell survival and/or death~~

51. (Currently Amended) The compositionComposition according to claim 46 for increasingmodulating apoptosis in primary cells.

52. (Currently Amended) The compositionComposition according to claim 46 for treating a disease selected fromin the group consisting of acute or chronic tissue damages, such as heart, kidney, brain or other organ ischaemia, HIV-related damage of brain or other tissues, skeletal muscle disorders, transplantation rejection; chronic degenerative disorders such as Parkinson's disease, amyotrophic lateral sclerosis and others; and neoplastic disease, preferably selected from the group consisting of leukemia and osteosarcoma, and autoimmune diseaseand other diseases involving excessive or defective apoptosis; tissue repair or wound healing, treatment of surgical incisions, and ulcers, such as stomach or diabetic ulcers.

53. (Currently Amended) DiagnosticA diagnostic agent for diagnosing a disease characterized by modulation of BAG3 protein expression, wherein said agent comprises at least oneto determine the expression of BAG3 protein characterized in that it contains a monoclonal or polyclonal antibody according to claim 30, and wherein said at least one antibody and directed against the polypeptide sequence selected in the group of SEQ ID NO: 4, 6, 8, 15, 16, 17, 18, preferably comprises monoclonal antibody secreted by the hybridoma mother cloneas defined by AC-1, deposit n° PD02009 deposited on 17 December 2002 at the Centro Biotecnologie Avanzate di Genova.

54. (Withdrawn) Method for treating cell death-involving diseases and for modulating cell survival and/or death comprising the step of administering to a subject in need an effective amount of antibodies and antisense oligonucleotides according to claim 30.

55. (Withdrawn) Method for treating cell death-involving diseases and for modulating cell survival and/or death comprising the step of administering to a subject in need an effective amount of polynucleotides and polypeptides according to claim 15.

56. (Withdrawn) Method for modulating apoptosis in primary cells comprising the step of administering to said cells an effective amount of antibodies and antisense oligonucleotides according to claim 30.

57. (Withdrawn) Method for modulating apoptosis in primary cells comprising the step of administering to said cells an effective amount of polynucleotides and polypeptides according to claim 44.

58. (Withdrawn) Method for treating a disease selected in the group of: acute or chronic tissue damages, such as heart, kidney, brain or other organ ischaemia, HIV- related damage of brain or other tissues, skeletal muscle disorders, transplantation rejection; chronic degenerative disorders such as Parkinson's disease, amyotrophic lateral sclerosis and others; and neoplastic, autoimmune and other diseases involving excessive or defective apoptosis; tissue repair or wound healing, treatment of surgical incisions, and ulcers, such as stomach or diabetic ulcers; said method comprising the step of administering to a subject in need an effective amount of antibodies and antisense oligonucleotides according to claim 30.

59. (Withdrawn) Method for treating a disease selected in the group of: acute or chronic tissue damages, such as heart, kidney, brain or other organ ischaemia, HIV- related damage of brain or other tissues, skeletal muscle disorders, transplantation rejection; chronic degenerative disorders such as Parkinson's disease, amyotrophic lateral sclerosis and others; and neoplastic, autoimmune and other diseases involving excessive or defective apoptosis; tissue repair or wound healing, treatment of surgical incisions, and ulcers, such as stomach or diabetic ulcers; said method comprising the step of administering to a subject in need an effective amount of polynucleotides and polypeptides according to claim 44.

60. (Withdrawn) Method for detecting the presence of the nucleotide sequence SEQ ID NO: 1 or of the protein SEQ ID NO: 2 or parts of them in a sample, in particular at least a part identified as SEQ ID NO: 3, 4, 5, 6, 7, 8, 15, 16, 17, 18;

said method comprising the steps of: contacting the sample with a compound that binds to and forms a complex with the nucleotide or the protein or parts thereof in sufficient conditions to form the complex, and detecting said complex.

61. (Withdrawn) Method for detecting a compound that binds to the protein SEQ ID NO: 2 or parts of it in a sample, in particular at least a part identified as SEQ ID NO: 4, 6, 8, 15, 16, 17, 18; said method comprising the steps of: contacting the compound with the protein or its part/s in sufficient conditions to form the complex compound/protein or its part/s, and detecting said complex.

62. (Currently Amended) Kit for identification and diagnosis of disease characterized by modulation of BAG3 protein expression, said kit comprising one or more containers enclosing at least one ~~the polyclonal or~~ monoclonal antibody~~antibodies~~ according to claim 30~~ or functionally equivalents of the above identified sequences~~.

63. (New) The diagnostic agent according to claim 53, wherein said disease is characterized by a decrease in BAG3 protein expression and increased apoptosis.

64. (New) The diagnostic agent according to claim 53, wherein said disease is selected from the group consisting of acute tissue damage, chronic tissue damage, HIV-related tissue damage, transplantation rejection, degenerative skeletal muscle disorders and chronic degenerative disorders.

65. (New) The diagnostic agent according to claim 53, wherein said disease is selected from the group consisting of ischemia, ~~such as~~ of the heart, kidney or brain, ~~ischemia,~~ Parkinson's disease and amyotrophic lateral sclerosis.

66. (New) The diagnostic agent according to claim 53, wherein said disease is characterized by an increase in BAG3 protein expression and decreased or defective apoptosis.

67. (New) The diagnostic agent according to claim 53, wherein said disease is selected from the group consisting of neoplastic disease and autoimmune disease.

68. (New) The diagnostic agent according to claim 53 wherein said disease is selected from the group of neoplastic diseases consisting of leukemia and osteosarcoma.

69. (New) The antibody according to claim 30 for use in the treatment of a disease characterized by enhanced expression and/or activity of BAG3 protein.

70. (New) The antibody according to claim 30 for use in the treatment of a disease characterized by diminished and/or defective apoptosis.

71. (New) The antibody according to claim 30 for use in the treatment of a disease or disorder selected from the group consisting of neoplastic disease, and autoimmune disease.

72. (New) The antibody according to claim 30 for use in the treatment of a disease selected from the gorup of neoplastic diseases consisting of leukemia and osteosarcoma.